Seabrook Joint Owners
Request for Waiver of Rule 90.261(b)

Background

Seabrook Joint Owners (Seabrook) is a Federal Communications Commission (FCC) licensee. The group is comprised of several agencies that cumulatively have the responsibility for managing the Seabrook Station Nuclear Power facility. The facility employs a critical communication system in the 450 MHz band that controls the Emergency Notification System (siren system) for the 10-mile radius around the Seabrook Nuclear Plant in Seabrook NH. This system has several associated licenses in both New Hampshire and Massachusetts due to the numerous transmitter locations and has been in operation since the mid 1980's.

The licensee seeks to correct an error in the license involving a control station that is part of this important system. For reasons detailed below, the control site needs to employ a power level that exceeds the requirements of FCC Rule 90.261(b), which limits the transmitter output power to 20 watts at this location. The instant application seeks to use a 70 watts transmitter power and 500 watt ERP. Therefore Seabrook requests a waiver of Rule 90.261(b).

Waiver Justification

We seek to correct several license issues with call sign WNBW301. There is an application pending for modification of this license that has been returned by the FCC. Location 3 (Massachusetts State Police) is listed as FB and should be listed as FX1. Frequency is listed as 451.675 and should be 456.675. This is a control station that operates repeaters (location 7 on WNFA932 and location 1 on WNGF719). Location 7 is a backup repeater which can be selected with an alternate PL tone. Location 1 has been in service for over 20 years at its current location. The FX1 on WNBW301 is being added as a backup control station. The primary control station is located in Framingham Massachusetts and uses a wireline to control the repeater due to interference on the repeater input. The new backup repeater (location 7 on WNFA932) is less susceptible to the interference since it is a stand-alone tower located a few miles from the primary repeater. This is a system that MUST function 100 percent of the time so there are multiple backups.

When the application for WNBW301 is corrected from FB to FX1 at 70 W TX power, it will not be in compliance with 90.261b. This transmitter uses a yagi antenna pointed north from Danvers Massachusetts which is 180 degrees from the Boston and Providence areas cited by the FCC in the return letter. The directional antenna should mitigate any interference with Boston/Providence markets. This control system will not function at 20 watts transmitter power due the distance from the repeaters, the terrain and the interference at the repeater sites. We are requesting 70 watts transmitter power into a Scala CA5-400 yagi antenna with a power gain of 10 resulting in an ERP of 500 Watts.

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We considered using a wire line between the control point and repeaters but we would only be able to access the one repeater. A 24-mile wire line is quite expensive. We already have two from the primary control point. We have no other option at the primary control point since it is well beyond usable UHF range. Using RF control from the secondary control point, we can access both the primary and secondary repeaters which have different PL tones on the input frequencies.

Obviously one solution is locate the control transmitter closer to the repeaters and wire line to that location. This creates added recurring expense for the system and is a political issue with Massachusetts State Police. They insisted that we locate the siren control equipment at their Danvers location against our wishes. It is about 24 miles from Danvers to the repeater sites with hills in between.

While the UHF control link exceeds the output power specified in Rule 90.261(b), the use of the directional antenna will protect the nearby markets from excessive field strength. The use of the RF link will allow Seabrook to efficiently control this critical communications system. We note that the license has another control grandfathered control site that operates at a similar power level and the proposed solution is consistent with the parameters of the existing authorization. Finally, we point out that since this system operates an emergency siren system, the transmitter is only used for testing and in the unlikely event of a nuclear emergency at Seabrook.

Summary

The Emergency Siren System is mandated by Federal law related to the operation of a nuclear power facility and is essential to the safety of the area nearby this power plant. The requested increase in power level allows for the efficient control of this notification system and is consistent with the existing license. While wire line may be an available solution, it increases the cost of operating the facilities and has its own political complications.

We respectfully request a waiver of Rule 90.261(b) to allow location 3 on call sign WNBW301 converted to a station class of FX1 on the channel 456.675 MHz, with a transmitter output power of 70 watts and an ERP of 500 watts.